

REMARKS

The Applicant appreciates the Examiner's quick and courteous Action.

Claims 1-33 are pending in the application. Claims 1-33 stand rejected.

The Applicant respectfully requests reconsideration in view of the following remarks.

Rejection Under 35 U.S.C. §102 over Awbrey, et al.

The Examiner has rejected claims 1-33 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Pat. No. 5,080,779 to Awbrey, et al.

With regard to claims 1-8 and 21-26, the Examiner finds that Awbrey, et al. discloses a method for removing metals from a hydrocarbon phase to a water phase involving adding between about 9.90 ppm to about 59.40 ppm of N-2-hydroxyethylethylenediaminetriacetic acid, which the Examiner contends to be a poly-hydroxy carboxylic acid, water and an amount of sulfuric acid sufficient to lower the pH of wash water to 3.5 to an emulsion of hydrocarbon and water and separating the emulsion into a hydrocarbon phase and an aqueous phase containing at least a portion of the metals.

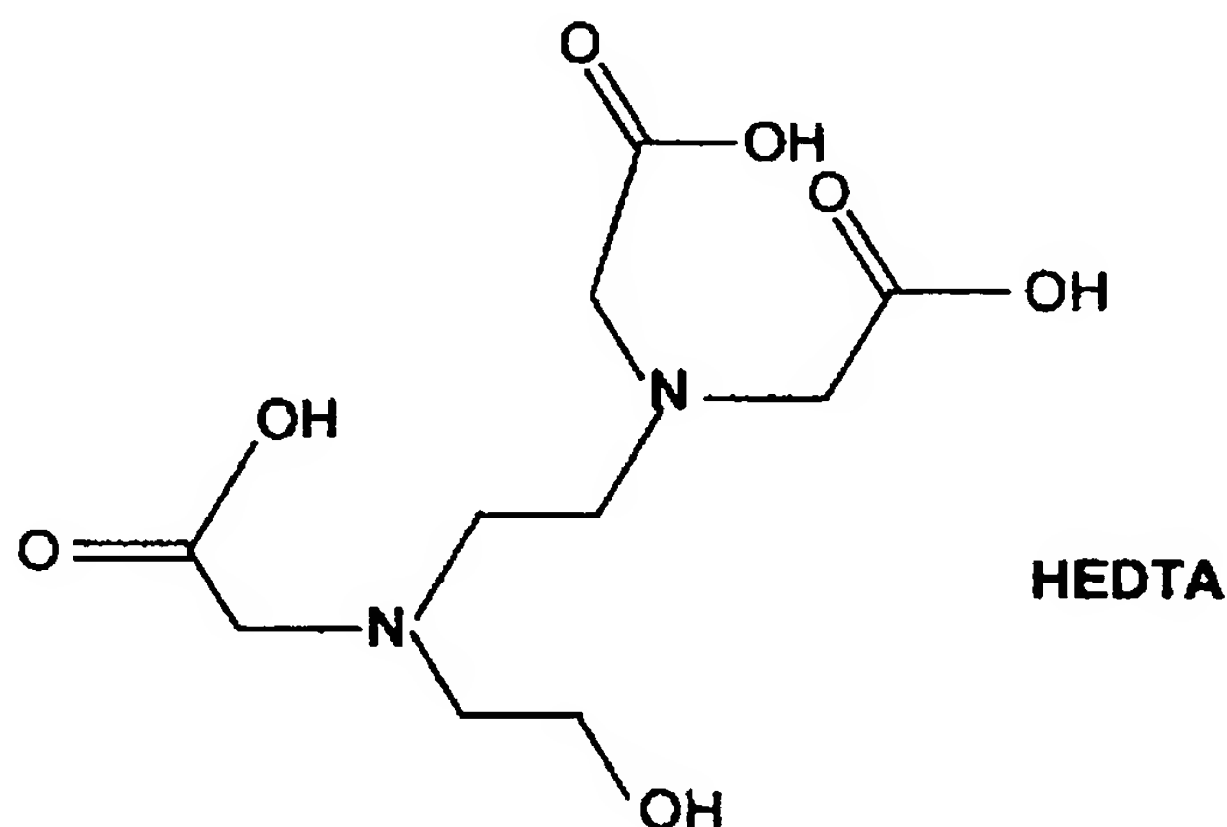
The Examiner rejected claims 9-13 and 27-28 under 35 U.S.C. §102(b) as allegedly being anticipated by Awbrey, et al. The Examiner finds that Awbrey, et al. discloses a composition for removing metals from a hydrocarbon phase to a water phase comprising between about 9.90 ppm to about 59.40 ppm of N-2-hydroxyethylethylenediaminetriacetic acid, which the Examiner contends to be a poly-hydroxy carboxylic acid, water and an amount of sulfuric acid sufficient to lower the pH of wash water to 3.5 to an emulsion of hydrocarbon and water.

Further, the Examiner has rejected claims 14-20 and 29-33 under 35 U.S.C. §102(b) as allegedly being anticipated by Awbrey, et al. The Examiner finds that Awbrey, et al. discloses a treated hydrocarbon emulsion comprising between about 9.90 ppm to about 59.40 ppm of N-2-hydroxyethylethylenediaminetriacetic acid, which the Examiner contends to be a poly-hydroxy carboxylic acid, water, 21 ppm of iron and an amount of sulfuric acid sufficient to lower the pH of wash water to 3.5 to an emulsion of hydrocarbon and water.

The Applicants would respectfully traverse.

A patent claim is anticipated, and therefore invalid, only when a single prior art reference discloses each and every limitation of the claim. *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d 1043, 1047, 34 U.S.P.Q.2d 1565 (Fed. Cir.), cert. denied, 116 S.Ct. 516 (1995). Applicants respectfully submit that the single Awbrey, et al. reference does not disclose each and every limitation of the claims.

Applicants respectfully note that N-2-hydroxyethylethylenediaminetriacetic acid (HEDTA) is not a poly-hydroxy carboxylic acid. Another formal name for this material is N-2-bis(carboxymethyl)amino ethyl-N-(2-hydroxyethyl) glycine, and it has the structure below:



HEDTA has only one hydroxyl group, although it has three carboxylic acid functional groups (the –OH structures in the –COOH groups do not function as hydroxyl groups, but rather as part of the carboxylic acid functional groups). Thus, it is respectfully submitted that HEDTA is not a poly-hydroxy carboxylic acid, and thus does not fall within the definition of water soluble hydroxy acids as defined by the pending claims. Thus, the single Awbrey, et al. reference does not disclose each and every limitation of the claims. For this single reason alone, the rejections should be withdrawn.

Instead, the HEDTA structure above also contains amino nitrogen groups, as it is formally an amino acid. The amino acid nomenclature is used by Awbrey, et

al. to describe these materials in column 5, lines 20-25 and in claim 3, for example.

It is further respectfully submitted that none of the materials listed in the pending claims herein contain this amine functionality. The only materials in the instant claims that contain nitrogen in any form are the ammonium salts of hydroxy acids, which are not amino acids. Furthermore, all of the instant claims involve removing amines from a hydrocarbon phase to a water phase. The Applicants submit that it would be *counter-productive* to add an additive to a system that was designed to *remove itself* from the hydrocarbon phase. For this additional reason, taken alone, it is respectfully submitted that the claims are not anticipated by the single Awbrey, et al. reference.

Also, Applicants respectfully submit that they could find no reference in Awbrey, et al. that shows use of a chelation agent of any kind in combination with sulfuric acid as the Examiner asserts. There is also no statement or example of a preferred pH range for the chelants to removal metals. The only reference to pH or sulfuric acid in Awbrey, et al. is in Table I. In this case the sulfuric acid is being used in combination with EB₁ (an emulsion breaker). Enough sulfuric was added to give a pH of 3.5 to the wash water. The emulsion breaker chemistry (typically phenol resin oxyalkylates) is different than the chelant chemistry and as far as Applicants can tell, a chelant from Awbrey, et al.'s list or any of the claimed materials herein is not present when sulfuric acid is used. Awbrey, et al. explains starting in column 6, line 65 that they were comparing the performance of the chelants to these acids alone to see if the pH of the sulfuric would remove iron. It is respectfully submitted that there is no teaching of any kind in Awbrey, et al. to use mineral acids in combination with chelants as recited in the Applicants' claims. There is also no mention, disclosure or suggestion that a chelant of Awbrey, et al. works best in a certain pH range.

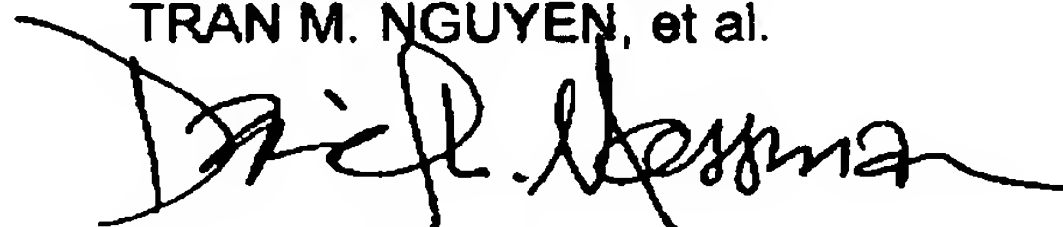
Further, the Examiner claims a dose rate is specified for the chelant in Awbrey, et al. Applicants could not find reference of any kind to the dose rate mentioned by the Examiner in Awbrey, et al. The Table I thereof shows dose rates of 20 ppm for chelants such EDTA or oxalic acid and Table II shows dose rates of 28

to 42 ppm of (38% active) EDTA. These do not equal the values quoted by the Examiner.

Thus all of these reasons, taken singly or together, establish that the single Awbrey, et al. does not disclose each and every limitation of the pending claims, and therefore the claims are not anticipated. Reconsideration is respectfully requested.

It is respectfully submitted that the arguments presented above overcome the rejection. Reconsideration and allowance of the claims are respectfully requested. The Examiner is respectfully reminded of his duty to indicate allowable subject matter. The Examiner is invited to call the Applicants' attorney at the number below for any reason, especially any reason that may help advance the prosecution.

Respectfully submitted,
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